

ABSTRACT OF THE DISCLOSURE

The invention provides a solid-state imaging device including a pixel array having a plurality of pixels arranged in a matrix. The pixels can each include a photo diode that generates carriers depending on the intensity of incident light, an accumulation region that accumulates the generated holes, an output transistor that outputs a signal according to threshold voltage that changes depending on the number of carriers accumulated in the accumulation region, and a clear transistor that discharges carriers accumulated in the accumulation region. One of semiconductor regions that form the photo diode and the accumulation region function as a source region of the clear transistor. In the accumulation period, if generated carriers spill from the source region of the clear transistor in the accumulation period, the clear transistor discharges the spilled carriers through a channel of the clear transistor in order to prevent the spilled carriers from entering the accumulation region of adjacent pixels. Accordingly, a technique where carriers in an accumulation region can be easily discharged.